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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,200	02/19/2002	John F. O'Connor, JR.		9276

7590 06/04/2003

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EXAMINER	
VERDIER, CHRISTOPHER M	
ART UNIT	PAPER NUMBER
3745	2

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/080,200	O'CONNOR, ET AL.	
	Examiner	Art Unit	
	Christopher Verdier	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7,9,10,12-15 and 18-21* is/are rejected.

7)☒ Claim(s) *6,8,11,16 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the axial dimension of at least one of the two scroll sub-sections that varies as air proceeds from the impeller to a discharge opening (claim 5), and the manner in which the axial dimensions of the two sub-sections varies being different (claim 6) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to because in figure 1, "1" should be changed to -- 1x --. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "16" (figure 3). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

- there is no antecedent basis in the specification for the back plate being made of molded thermoplastic (claim 20).

The disclosure is objected to because of the following informality: Appropriate correction is required.

On page 1, line 1, reference to the provisional application 60/270,932 and its filing date should be made.

Examiner's Suggestions to Claim Language

The following are suggestions to improve the clarity and precision of the claims:

In claim 1, line 9, "the" may be changed to -- a -- .

In claim 8, line 1, "the" may be deleted.

In claim 9, line 1, "the" may be deleted.

In claim 10, line 1, "the" may be deleted.

In claim 19, line 1, "blower" may be changed to -- impeller --.

In claim 20, line 1, "blower" may be changed to -- impeller --.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 12, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 61-247,899 (figures 1-2). Note the centrifugal blower assembly having a centrifugal impeller 2 that receives air axially and discharges the air radially, an electric motor 3 connected drivingly to the impeller, a scroll diffuser 1a, 1b defining an axial inlet opening 7 for supplying air to the impeller, and a scroll section 11 for collecting and discharging air from the impeller, and partition 5 extending substantially in a radial plane mounted within the housing 1 with an inner edge receiving and having an edge in close proximity to the periphery of the impeller, with the partition serving to divide the scroll interior into two discrete axially adjacent flows near 11A, 11B for the discharge of air from the scroll section. The scroll section comprises two discrete scroll subsections 11A, 11B associated respectively with the two axially adjacent flows. The scroll subsections have cutoff points (unnumbered, see figure 2) substantially at the same point circumferentially along the periphery of the impeller opening in the partition. The scroll subsections have discharge openings with substantially parallel centerlines because the scroll subsections are divided by the partition 5.

Claims 1-4, 7, 9, 12, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 58-101,297 (figures 1-2). Note the centrifugal blower assembly having a centrifugal impeller A/3 that receives air axially and discharges the air radially, an electric motor C connected drivingly to the impeller, a scroll diffuser near B, B1 defining an axial inlet opening near 2 for supplying air to the impeller, and a scroll section B1, B2 for collecting and discharging air from the impeller, and partition 4 extending substantially in a radial plane mounted within the unnumbered housing with an inner edge receiving and having an edge in close proximity to the periphery of the impeller, with the partition serving to divide the scroll interior into two discrete axially adjacent flows near B1, B2 for the discharge of air from the scroll section. The scroll section comprises two discrete scroll subsections B1, B2 associated respectively with the two axially adjacent flows. Each of the scroll subsections is configured to provide an independently optimized expansion rate. The scroll subsections have differing configurations of their outer walls, each being spaced radially from but facing the impeller (see figure 2). The centerlines of the flows through the subsections differ. The discharge openings (unnumbered) of the two subsections B1, B2 are arranged in adjacent side-by-side relationship to provide an aggregate discharge opening of substantially enlarged width. The scroll subsections have cutoff points (unnumbered, see figure 2) substantially at the same point circumferentially along the periphery of the impeller opening in the partition. The scroll subsections have discharge openings (unnumbered) with centerlines (unnumbered) angularly related to each other.

Claims 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Konno 6,379,126 (figures 6-8). Note the low profile centrifugal impeller assembly comprising a centrifugal impeller 9A adapted to receive air axially and discharge the air radially, the backplate (near 11A in figure 8) with a radially outwardly disposed annular portion extending substantially in a radial plane, the plural substantially axially extending parallel air moving blades 11A having an end portion mounted on the outwardly disposed annular portion of the backplate, with a radially inwardly disposed portion of the backplate having a cup-shaped configuration 12A and extending axially within the outer backplate portion in a cylindrical opening defined by the blades thereon, and a permanent magnet portion 14 of an electric motor for driving the impeller disposed within the cup-shaped radially inner portion of the backplate, and housing 1 defining an axial inlet (unnumbered, see figure 8) for supplying air to the impeller and an unnumbered scroll section (see figure 8) for collecting and discharging air from the impeller, with the depth of the cup-shaped backplate portion being at least equal to the length of the blades.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 7, 12-15, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams 2,330,938 in view of Japanese Patent 61-247,899. Williams discloses a centrifugal blower assembly substantially as claimed having a centrifugal impeller 60 that receives air axially and discharges the air radially, an motor 55 connected drivingly to the impeller, a scroll diffuser near 20/26/36/37 defining an axial inlet opening 24 for supplying air to the impeller, and a scroll section 34, 35, 44, 45 for collecting and discharging air from the impeller, and partition 31 extending substantially in a radial plane mounted within the housing 10/11/12 with an inner edge receiving and having an edge in close proximity to the periphery of the impeller, with the partition serving to divide the scroll interior into two discrete axially adjacent flows near 34, 35, 44, 45 for the discharge of air from the scroll section. The scroll section comprises discrete scroll subsections 34, 35, 44, 45 associated respectively with the two axially adjacent flows. Each of the scroll subsections is configured to provide an independently optimized expansion rate. The centerlines of the flows through the subsections differ. The scroll subsections have cutoff points 40, 41 substantially at the same point circumferentially along the periphery of the impeller opening in the partition. The scroll subsections also are considered to have cutoff points 40, 41 spaced circumferentially from each other in the upper and lower

subsections defined by 34, 35, 44, 45. The scroll subsections have discharge openings with substantially parallel centerlines in adjacent upper and lower subsections. The scroll subsections also have discharge openings (unnumbered) with centerlines (unnumbered) angularly related to each other in circumferentially spaced subsections. A flow balancing restriction (column 4, lines 35-40) may be provided in the scroll subsections. However, Williams does not disclose that the motor is an electric motor.

Japanese Patent 61-247,899 (figure 1) shows a centrifugal fan 2 having an electric motor 3 associated with the fan, for the purpose of positively driving the centrifugal fan.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the electric motor 55 of Williams 2,330,938 as an electric motor, as taught by Japanese Patent 61-247,899, for the purpose of positively driving the centrifugal fan.

Claims 1-2, 4, 7, 10, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swiss Patent 132,105 in view of Japanese Patent 61-247,899. The Swiss Patent (figures 3-5) discloses a centrifugal blower assembly substantially as claimed having a centrifugal impeller 3/4 that receives air axially and discharges the air radially, a scroll diffuser (unnumbered) defining an axial inlet opening near 1 for supplying air to the impeller, and a scroll section 6, 7 for collecting and discharging air from the impeller, and partition 5 extending substantially in a radial plane mounted within an unnumbered housing with an inner edge receiving and having an

edge in close proximity to the periphery of the impeller, with the partition serving to divide the scroll interior into two discrete axially adjacent flows near 6, 7 for the discharge of air from the scroll section. The scroll section comprises discrete scroll subsections 6, 7 associated respectively with the two axially adjacent flows. The centerlines of the flows through the subsections differ. As seen in figure 5, the discharge openings 6, 7 of two subsections are arranged in angularly spaced apart relationship. The scroll subsections have cutoff points (unnumbered, see figure 4) substantially at the same point circumferentially along the periphery of the impeller opening in the partition. The scroll subsections have unnumbered discharge openings with substantially parallel centerlines. However, the Swiss Patent does not disclose an electric motor connected drivingly to the impeller.

Japanese Patent 61-247,899 (figure 1) shows a centrifugal fan 2 having an electric motor 3 associated with the fan, for the purpose of positively driving the centrifugal fan.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to drive the centrifugal blower of Swiss Patent 132,105 with an electric motor, as taught by Japanese Patent 61-247,899, for the purpose of positively driving the centrifugal fan.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 61-247,899 in view of Forni 5,156,524. Japanese Patent 61-247,899 discloses a centrifugal blower assembly substantially as claimed as set forth above, including two discrete scroll

subsections 11A, 11B, but does not disclose that the axial dimension of at least one of the two scroll subsections varies as the air proceeds from the impeller to an associated discharge opening.

Forni 5,156,524 (figures 1a-1b) shows a centrifugal fan (not shown) with a volute 30 having an axial dimension that varies as the air proceeds from the impeller to an associated unnumbered discharge opening, for the purpose of providing a substantially constant static pressure field around the circumference of the impeller, and improving performance.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the blower of Japanese Patent 61-247,899 such that the axial dimension of one of the scroll subsections 11A, 11B varies as the air proceeds from the impeller to an associated discharge opening, as taught by Forni, for the purpose of providing a substantially constant static pressure field around the circumference of the impeller, and improving performance.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konno 6,379,126 in view of Adonakis 6,499,954. Konno discloses a centrifugal impeller substantially as claimed as set forth above including a backplate near 11A, but does not disclose that the backplate is constructed of a molded thermoplastic.

Adonakis (figure 3) shows a centrifugal blower impeller having a backplate 11 of molded thermoplastic (column 6, lines 17-25) via injection molding, for the purpose of simplifying manufacturing of the impeller.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the backplate of Konno 6,379,126 such that the backplate is constructed of a molded thermoplastic, as taught by Adonakis, for the purpose of simplifying manufacturing of the impeller.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gage and Japanese Patent 58-217798 are cited to show blowers with partitions.

Laing is cited to show a blower with a restriction in the outlet.

Muller is cited to show a fan with a cup-shaped portion.

Japanese Patent 55-66697 is cited to show an impeller with a cup-shaped central portion.

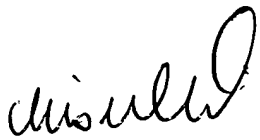
Allowable Subject Matter

Claims 6, 8, 11, and 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (703)-308-2638. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (703) 308-1044. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Christopher Verdier
Primary Examiner
Art Unit 3745

C.V.
June 1, 2003